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REMARKS

Claims 1, 2, and 8 have been amended to improve language, and in particular to render even more clear the relationship between the operators and the compartments. The scope of the claims has not been changed in anyway, and no new subject matter has been added. Claims 1-8 remain for examination.

The Examiner has rejected claims 1-8 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,490,626 issued to Edwards in view of Schimunek *et al.*, "Slicing the AS/400 with logical partitioning: A how to guide".

The present invention is addressed to a network management system that may be shared by more than one independent operator. In such cases, the operations systems (a generic reference to network management and other equipment for provisioning and controlling the operation of network elements) have to be strongly secured in terms of information flow control, so that the independent operators have no access to the operations systems of each other. In the present invention, mandatory access control is enforced within separate operating system compartments. The compartments function autonomously, each executing the operations software (the systems for performing network management) separately and in isolation from the other compartments. The number of compartments within the operating system corresponds to the number of operators. Each compartment is accessible only by the operator to which it has been assigned, and is not reachable by other operators. No operator is aware of other operators accessing the same software at the same time. The security of each operator is the same, irrespective of how many operators share the operations software. Updates are easy to perform, since only one software at a time needs to be updated. No security weaknesses are apparent, since there are no secret elements to protect, such as by cryptographic keys.

In contrast, Edwards teaches a web browser running on a compartmented mode workstation, and not a compartmented network management system. The browser of Edwards uses three compartments, System Inside (SI), System Medium (SM), and System

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Outside (SO). The “real” browser runs in the SM compartment. Trusted processes TPI (trusted process-inside) and TPO (trusted process-outside) have privileges that allow them to override the mandatory access control, for enabling the web browser to gain access to the internal and external networks respectively. A number of users may be present who access the web browser, but there is no relation between the number of users and the number of compartments, nor is there any association between individual user and compartments. The purpose of compartments in Edwards is to shield the web browser from the users and from the outside network, and not to provide each operator with a means of carrying out network management system operations software in isolation.

The differences between Edwards and the present invention will be made more clear by considering the elements of the claims.

Claim 1 is directed to a network management system (NMS). Edwards does not teach a network management system. The Examiner states that Edwards teaches this as element 252 of Figure 2. However element 252 of Figure 2 refers to a web server and not to a network management system.

The NMS to which claim 1 is directed is sharable by a plurality of operators. This is a feature not taught by Edwards. The Examiner states that Edwards teaches this feature as elements 222, 230, 224, 226, and 228 of Figure 2 and at column 4 lines 47-60. Elements 222, 230, 224, 226, and 228 are not operators, but rather are network devices and peripherals, and are a user machine (230) and “other apparatus, labelled w, x, y and z (labelled 222, 224, 226 and 228 respectively), which can be other user machines, servers or network appliances such as printers.” (column 4 lines 33-36) Column 4 lines 47-60 does not mention operators, but rather recites the use of different compartments within the CMW machine 200 and defines sensitivity labels.

The NMS of claim 1 includes means for assigning each operator to a respective one of the compartments. This is a feature not taught by Edwards. The Examiner states that Edwards teaches this limitation at column 4 lines 47-67. The passage recites the use of different compartments within the CMW machine 200, and teaches that the display server 232 is attached to one of the compartments (the SI compartment) and that the external

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network is attached to another one of the compartments (the SO compartment). However, this is not the same as assigning each operator to a respective one of the compartments. The Examiner has equated the operators with the elements 222, 230, 224, 226, and 228 of Figure 2. Even if these were to be considered operators, Edwards does not teach assigning each of these to a respective one of the compartments. Edwards does not teach assigning the elements labelled w, x, y, and z with any of the compartments. Edwards does not teach that any operator is assigned to the compartments 216, 210, or 202, which it must do in order to anticipate claim 1 of the present application since claim 1 also recites that there are an equal number of compartments and operators.

The NMS of claim 1 also includes common operations software. This is a feature not taught by Edwards. The Examiner states that Edwards teaches this limitation as element 210 of Figure 2 and in the Abstract. However, element 210 is a web browser running in only one compartment 206, and can in no way be considered to be common operations software also running in each of the compartments 216, 204, 208, and 202. In fact the Abstract states expressly the "Web browser (210) is configured to run in a middle compartment (206) of a Compartmented Mode Workstation (CMW) (200)", and the entire purpose of two of the compartments (SI 204 and SO 208) is to provide secure communication between the web browser 210 and internal and external networks through the other compartments, each of which contains a trusted process. It is clear from the Abstract that at least three of the compartments (SI, SM, and SO) contain different software, and not common operations software.

The NMS of claim 1 also includes the limitation that each operator accesses the NMS via the access control of the compartment and the compartment executes in isolation the operations software for its operator. The Examiner states that Edwards teaches this feature at column 5 line 1 to column 6 line 46. However, this passage teaches the use of sensitivity labels in a prioritized way that allows processes or objects having one sensitivity label to interact with processes or objects having different sensitivity labels. The passage makes no mention of elements 222, 224, 226, and 228, which the Examiner has equated with the operators of claim 1. The passage makes no mention of the compartments 204 or 208, which the Examiner has equated with compartments of claim 1. The passage makes

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no mention of an NMS. The Applicant respectfully submits that the passage is irrelevant to this limitation of claim 1.

These features are also not taught by Schimunek, which in general teaches the logical partitioning of a particular computing platform (the AS/400). All that the passages of Schimunek cited by the Examiner teach is secure access to a logical partition by users who have been assigned to the logical partition using a user profile and a password. In fact, page 51 teaches that a user profile may have access to multiple logical partitions. Schimunek does not appear to teach a NMS, nor common operations software which, as has been argued in response to previous office actions, is distinct from an operating system.

Because the Examiner has not shown where each and every element of claim 1 is taught by Edwards and Schimunek, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claim 1.

Claims 2 and 8 have limitations identical to many of those discussed above. Furthermore, the most of the Examiner's rejections of claims 2 and 8 appear identical to the reasons for rejecting claim 1. The only differences appear to be that Edwards teaches a network element in communication system (claim 2) and a network element in a communication system (claim 8). In each case, the Examiner has simply cited Figure 2 of Edwards as teaching the respective feature. The Applicant respectfully submits that this is not specific enough for the Applicant to make adequate response, as it is not clear which of the numerous network elements of Figure 2 it is that the Examiner feels are shared by a plurality of operators and have all the other features of the claims.

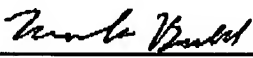
With respect to the identical limitations and the identical reasons for rejection, the same arguments apply to claims 2 and 8 as were applied to claim 1. Claim 3 to 7 are dependent on claim 2 and include the same limitations. Because the Examiner has not shown where each and every element of claims 2-8 is taught by Edwards and Schimunek, either alone or in combination, the Applicant respectfully submits that a *prima facie* case of obviousness has not been established against claims 2-8.

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In addition, the Applicant respectfully submits that a person skilled in the art would not be motivated to combine the teachings of Edwards and Schimunek. The Examiner has stated that "one would have been motivated to incorporate the teachings of assigning access control to each users operators because it would authenticate each users of each compartments based on assigned access control". However, it is far from clear to which users of Edwards the Examiner is referring. The Examiner has equated elements 222, 224, 226, 228, and 230 of Figure 2 of Edwards with the operators of claim 1 of the present invention. As explained above, these elements (which are really computing devices) are not assigned to compartments with the CMW machine. It is therefore difficult to see how a person skilled in the art would be motivated to use the teachings of Schimunek to provide these "users" with restricted access control to respective compartments. Since the Examiner has not shown reasonable reason why a person skilled in the art would be motivated to combine the teachings of Edwards and Schimunek, the Applicant submits that a *prima facie* case of obviousness has not been established against claims 1 to 8.

In view of the foregoing, it is believed that the claims at present on file and as amended herein are in condition for allowance. Reconsideration and action to this end is respectfully requested.

Respectfully submitted,

  
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